

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 2

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-6. (Canceled)

7. (Previously Presented) A method of inhibiting fusion of a macrophage-tropic primary isolate of HIV-1 to a CD4+ cell susceptible to infection by a macrophage-tropic primary isolate of HIV-1 which comprises contacting the CD4+ cell with an agent which is (1) capable of inhibiting fusion of HeLa-env_{JR-FL} to a PM1 cell, but (2) not capable of inhibiting fusion of HeLa-env_{LAI} to a HeLa-CD4+ cell, so as to thereby inhibit the fusion of the macrophage-tropic primary isolate of HIV-1 to the CD4+ cell.
8. (Previously Presented) The method of claim 7, wherein the agent is determined to be capable of inhibiting fusion of a macrophage-tropic primary isolate of HIV-1 to a CD4+ cell but not capable of inhibiting fusion of a T cell tropic isolate of HIV-1 to a CD4+ cell using a method which comprises:
 - (a) contacting (i) a PM1 cell, which is labeled with a first dye, with (ii) HeLa-env_{JR-FL}, which is labeled with a second dye, in the presence of an excess of the agent under conditions which would normally permit the fusion of the PM1 cell to the HeLa-env_{JR-FL} in the absence of the agent, the first and second dyes being selected so as to allow resonance energy transfer between the dyes;
 - (b) exposing the product of step (a) to conditions which would result in resonance energy transfer if fusion

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 3

has occurred; and

- (c) determining whether there is a reduction of resonance energy transfer, when compared with the resonance energy transfer in the absence of the agent;
- (d) contacting (i) a HeLa-CD4+ cell, which is labeled with a first dye, with (ii) HeLa-env_{LAI} which is labeled with a second dye, in the presence of an excess of the agent under conditions which would normally permit the fusion of HeLa-CD4+ to the HeLa-env_{LAI} in the absence of the agent, the first and second dyes being selected so as to allow resonance energy transfer between the dyes;
- (e) exposing the product of step (d) to conditions that would result in resonance energy transfer if fusion has occurred;
- (f) determining whether there is a reduction of resonance energy transfer, when compared with the resonance energy transfer in the absence of the agent; and
- (g) comparing the determination made in step (c) with the determination made in step (f), wherein a decrease in transfer in step (c) but not in step (f) indicates that the agent is capable of specifically inhibiting fusion of the macrophage-tropic primary isolate of HIV-1 to the CD4+ cell, but not capable of specifically inhibiting the fusion of a T cell-tropic isolate of HIV-1 to the CD4+ cell.

9. (Previously Presented) The method of claim 7, wherein the agent is an antibody.

10-12. (Canceled)

13. (Previously Presented) The method of claim 7, wherein the agent is capable of inhibiting fusion of a macrophage-tropic primary isolate of HIV-1 to a CD4+ cell but not

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 4

capable of inhibiting fusion of a T cell-tropic isolate of HIV-1 to a CD4+ cell in a method which comprises:

- (a) contacting (i) a PM1 cell, which is labeled with a first dye, with (ii) HeLa-env_{JR-FL}, which is labeled with a second dye, in the presence of an excess of the agent under conditions which would normally permit the fusion of the PM1 cell to the HeLa-env_{JR-FL} in the absence of the agent, the first and second dyes being selected so as to allow resonance energy transfer between the dyes;
- (b) exposing the product of step (a) to conditions which would result in resonance energy transfer if fusion has occurred; and
- (c) determining whether there is a reduction of resonance energy transfer, when compared with the resonance energy transfer in the absence of the agent;
- (d) contacting (i) a HeLa-CD4+ cell, which is labeled with a first dye, with (ii) HeLa-env_{LAI}, which is labeled with a second dye, in the presence of an excess of the agent under conditions which would normally permit the fusion of HeLa-CD4+ to the HeLa-env_{LAI} in the absence of the agent, the first and second dyes being selected so as to allow resonance energy transfer between the dyes;
- (e) exposing the product of step (d) to conditions that would result in resonance energy transfer if fusion has occurred;
- (f) determining whether there is a reduction in resonance energy transfer, when compared with the resonance energy transfer in the absence of the agent; and
- (g) comparing the determination made in step (c) with the determination made in step (f), wherein a decrease in transfer in step (c) but not in step (f) indicates that the agent is capable of specifically inhibiting fusion of the macrophage-tropic primary isolate of

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 5

HIV-1 to the CD4+ cell, but not capable of specifically inhibiting the fusion of a T cell-tropic isolate of HIV-1 to the CD4+ cell.

14. (New) The method of claim 7, wherein the agent is a protein moiety.
15. (New) The method of claim 14, wherein the protein moiety is an antibody.
16. (New) The method of claim 15, wherein the antibody is an antibody is a monoclonal antibody.
17. (New) The method of claim 15, wherein the antibody is a wholly synthetic antibody or a chimeric antibody.
18. (New) The method of any of claims 15-17, wherein the antibody is an antigen-binding fragment of an antibody.
19. (New) The method of claim 14, wherein the protein moiety is a β -chemokine.
20. (New) A method of inhibiting fusion of a macrophage-tropic primary isolate of HIV-1 to a CD4+ cell susceptible to infection by a macrophage-tropic primary isolate of HIV-1 which comprises contacting the CD4+ cell with a protein moiety which is (1) capable of inhibiting fusion of HeLa-env_{JR-FL} to a PM1 cell, but (2) not capable of inhibiting fusion of HeLa-env_{LAI} to a HeLa-CD4+ cell, so as to thereby inhibit the fusion of the macrophage-tropic primary isolate of HIV-1 to the CD4+ cell.
21. (New) The method of claim 20, wherein the protein moiety is an antibody.

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 6

22. (New) The method of claim 21, wherein the antibody is a monoclonal antibody.
23. (New) The method of claim 21, wherein the antibody is a wholly synthetic antibody or a chimeric antibody.
24. (New) The method of any of claims 21-23, wherein the antibody is an antigen-binding fragment of an antibody.
25. (New) The method of claim 20, wherein the protein moiety is a β -chemokine.